

**I/We Claim:**

1. An optical communication system arranged to transmit input data from a transmitter to a remote receiver, said system comprising

means for encoding said input data by modulating the phase of a RZ carrier in accordance with said input data, and

means for transmitting said phase modulated RZ carrier from said transmitter to said receiver via a dispersion managed optical transmission medium.

2. A optical communication system comprising

means for generating an RZ carrier signal,

means for modulating the phase of said RZ carrier signal in accordance with an input data stream, and

means for applying the phase modulated signal generated by said modulating means to a dispersion managed optical transmission link.

3. An arrangement for transmitting digital data from an originating location to a remote destination, comprising

a modulator for modulating the phase of an RZ carrier in accordance with said digital data; and

means for transmitting the output of said modulator from said originating location to said remote destination via a dispersion managed optical transmission medium.

4. The invention defined in claim 3 wherein said modulator is a PSK modulator.

5. The invention defined in claim 3 wherein said modulator is a DPSK modulator.

6. The invention defined in claim 3 wherein said modulator is a QPSK modulator.

7. The invention defined in claim 3 wherein said dispersion managed optical transmission medium is a long haul transmission medium adapted for the transmission of solitons.

8. The invention defined in claim 3 wherein said dispersion managed optical transmission medium is arranged to use quasi-linear transmission with very short (compared to the bit period) pulses that disperse very quickly as they propagate along said transmission medium.

9. The invention defined in claim 3 wherein said RZ carrier has a first wavelength, and wherein said arrangement further includes a wavelength division multiplexer arranged to combine the output of said modulator with other phase modulated signals having RZ carriers with different wavelengths.

10. The invention defined in claim 3 wherein said modulator is a LiNbO<sub>3</sub> phase modulator.

11. The invention defined in claim 3 wherein said modulator is a LiNbO<sub>3</sub> Mach-Zehnder phase modulator.

12. The invention defined in claim 3 wherein said remote location includes a delay demodulator.

13. The invention defined in claim 3 wherein said remote location includes a balanced receiver for recovering said input data from said phase modulated signal.

14. The invention defined in claim 3 wherein said arrangement includes means for amplifying the optical signal output from said transmission means to compensate for losses occurring in said optical transmission medium.

15. The invention defined in claim 14 wherein said amplifying means includes discrete or distributed EDFA or Raman amplification.

16. An optical communication method for transmitting input data from a transmitter to a remote receiver, comprising the steps of

encoding said input data by modulating the phase of a RZ carrier in accordance with said input data, and

transmitting said phase modulated RZ carrier from said transmitter to said receiver via a dispersion managed optical transmission medium.

17. A optical communication method comprising the steps of

generating an RZ carrier signal,

modulating the phase of said RZ carrier signal in accordance with an input data stream, and

applying the phase modulated signal generated in said modulating step to a dispersion managed optical transmission link.

18. An method for transmitting digital data from an originating location to a remote destination, comprising the steps of

modulating the phase of an RZ carrier in accordance with said digital data; and

transmitting the signal generated in said modulating step from said originating location to said remote destination via a dispersion managed optical transmission medium.